CLAIMS

1. A furan polymer impregnated wood, characterized by wood impregnated with a polymerizable furfural alcohol monomer solution containing at least water, stabilizers, furfuryl alcohol, and one further compound selected from maleic anhydride, phthalic anhydride, maleic acid, malic acid, phthalic acid, and combinations thereof.

2. The furan polymer impregnated wood of claim 1, characterized in that said one further compound is maleic anhydride.

3. The furan polymer impregnated wood of claim 1, characterized in that said one further compound is phthalic anhydride.

4. The furan polymer impregnated wood of claim 1, characterized in that said one further compound is maleic acid.

5. The furan polymer impregnated wood of claim 1, characterized in that said one further compound is malic acid.

6. The furan polymer impregnated wood of claim 1, characterized in that said one further compound is phthalic acid.

7 The furan polymer impregnated wood of any of the preceding claims, characterized in that the stabilizers are borax and sodium salts of lignosulfonic acids.

8. A method for preparing a furan polymer impregnated wood, characterized in that the wood is impregnated by one impregnation step with polymerizable furfural alcohol monomer solution containing at least water, stabilizers, and furfuryl alcohol, and at least one further compound selected from the group consisting of anhydrides, acids and combinations thereof, followed by a curing step.

9. The method of claim 8, characterized in that said curing is performed by use of a temperature in the range of from about 70 to about 140°C.

10. The method of claim 9, characterized in that said curing requires conventional kiln drying using the normal temperature schedules for drying untreated, green lumber of the same size and species as the impregnated material, with temperatures at the beginning of curing about 70°C and at the end about 80°C, with a final post-curing step between 100 to 120°C for material with maximum hardness and dryness.

11. The method of claim 10, characterized in that said curing and drying can be accomplished using high-temperature kiln schedules in the 80 to 120°C temperature range.

12. The method of claim 11, characterized in that curing is performed by submerging the treated material in hot oil, preferably 80 to 120°C, with the temperature either fixed or starting lower in the range and increasing as curing and drying proceeds.

13. Use of a furan polymer impregnated wood as prepared according to claims 8 to 12, as building parts (facia, cornice, siding, sills, frames, millwork), boat parts (frames, planking, decks), marine items (docks, piers, lobster traps, weir poles), outdoor items (furniture, decks, railings and stairs, walkways, boardwalks, playground equipment), bridge parts (beams, railings, decking), railway sleepers, cooling tower slats, utility poles, heavy timbers, fenceposts, stakes, highway items (guard rail posts, guard rail plates, sign posts, light poles) and container (tanks, buckets.